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THE GENESEE FARMER.

SATURDAY, OCTOBER 6, 1838.

BREEDING CATTLE.

The attention of farmers has of late been turned to the improvement of their stock by the introduction of pure blooded animals into the country; and the subject is one which vitally affects their interest and should be well understood by them. The extension of the alternate system of husbandry, while it will not lessen the quantity of the grain grown, will afford the means of greatly adding to our stock of cattle, and render apparent the necessity of paying more attention to the principles upon which breeding can alone be profitably conducted.

There are multitudes of farmers practically acquainted with raising cattle,—and our remarks will equally apply to Horses, Sheep, &c.—who, unacquainted with the laws which govern propagation, and the mixing of blood by crossing breeds, know not how to determine the increase or deterioration of pure blood that will result from employing two animals of different breeds. Having a mere superficial kdowledge of such breeds, but unacquainted with the principles that determine their origin and contribute to their preservation, it is not to be wondered at that mistakes should occur in management that defeat their purposes, and have in some cases the effect of preventing any further attempts at improvement.

Farmers understand that by coupling a pure blood Short Horn with a cow of our common or ordinary race, the offspring will be *half breed;* they further understand that by the union of this *half breed* heifer with the same father or another pure Short Horn, a progeny three-quarters blood will be produced; but there are many who do not understand, or rather never have inquired, how it is that they have not pure blood in the third or fourth generation. It is at these points of gradation in breeding, that interested or dishonest dealers in animals begin to take the advantage of the ignorance or inattention in farmers to which we have alluded, and many an animal is palmed off for good blood that a little care or examination would show to have small pretensions to such a distinction.—Pure blood is talked about loudly, when perhaps neither the buyer or seller comprehends the real proportion of pure blood existing in the animal.

All acknowledge the principle that from the union of two individuals of different breeds, one pure blood and the other common, half blooded animals will be the result. From this starting point a scale may be drawn up, by which we may determine the degree of pure blood that any generation, however distant, may possess; or the proportional quantity of pure and common blood which flows in the veins of a bull or horse whose progeny is known. A resource to figures and examples will perhaps make this more plain, and we shall on this part avail ourselves of the tables prepared by Count Montendre, for the French Sporting paper, *Le Journal Des Haras.*

We will, for example, take one of Mr. Allen's or Mr. Rotch's beautiful Improved Short Horn bulls, and as he is of pure blood we will call him A., or expressed in figures by 1. The cow shall be of the common native kind and called B., and her value in blood 0. The calf produced by the union of these two is characterized by the letter C. and is composed of half of the father and half of the mother, and decimally expressed thus: $\frac{1+0}{2} = 0{,}50$, or $\frac{1}{2}$. C. is a heifer, and is put to another pure S.Horn, and the calculation will then stand thus $\frac{1+0{,}50}{2}$ or $\frac{1.50}{2} = .75$. or three fourths pure blood. We will now proceed to another generation. The progeny is still a heifer, and put to a pure Short Horn as before; and the result will be now as follows, $\frac{1+0.50}{2}$ or $\frac{175}{2} = 875 = 7$ pure blood. The fourth generation the same course pursued will stand thus $\frac{1+0.875}{2}$ or $\frac{1.875}{2} = 9375$, or $\frac{15}{16}$. The tenth generation would give, as the reader may work out if he pleases, $\frac{1023}{1024}$ pure blood; and the twentieth generation would possess $\frac{1048625}{1048576}$ of pure blood, or in other words an animal of the 20th generation, in one million forty-eight thousand five hundred and seventy-six parts of blood, would have one million forty-eight thousand five hundred and twenty-five that was pure; and though by further progress we should approach nearer and nearer the unit that represented the bull, it would never be quite reached. The deficiency would indeed be slight, but the pure blood could never be reached, or absolutely re-produced; and this fact, though apparently of little consequence, is of vast importance to the breeder, and should be always kept in mind.

It results from this mathematical demonstration of the effects of crossing in breeding, or breeding from pure and common animals, that every breed brought to a certain state of excellence, by a succession of improvements, may sustain itself in this state without having recourse to the pure breed from which it was derived, and in which was its first principles of improvement. All that is necessary, is, in breeding, to employ animals of both sexes uniting the highest qualities of the improved race; but there are always difficulties attending the conservation of such a race, and without the greatest care, a deterioration from this elevated point will soon be visible.

The cause and reason for this tendency to deterioration must be sought in the impure blood, which necessarily exists in every deviation from an original stock. Notwithstanding the value of the cross—although it may approach the pure race to within the minutest shade—still it carries in its blood, derived from its mother, an indestructible germ of debasement; always ready to develop itself by little and little under the operation of local influences; always modifying the general economy and constitution of the animal, until by an alteration in form, a difference in qualities or disposition of the animal, it is evident the type of the male parent is effaced, and a re-production of that of the mother, with all its characteristics of inferiority, is complete.

It is clear, therefore, that though by extraordinary care and attention, an improved breed of animals may be kept at any degree of excellence by selecting the best animals of the race to propagate from, the breeder acts wisely who occasionally regenerates his improved stock, by crossing it with pure blood from the original race, without any ignoble mixture or impure stain. The observance of this rule appears to have constituted the secret of the Rev. Henry Berry's unequalled success in breeding improved Short Horns; and a recurrence to it will we think be found necessary by every one who is engaged in rearing the best animals of any breed.

If a half breed bull is put to a cow of the same grade, the character of the progeny would according to the mathematical calculation we have made, appear $\frac{050+050}{2} = \frac{102}{2} = 0.50$, that is the calf would be of the same blood as the parents, or half and half. But experience shows that such will not be exactly the case. The tendency to degradation is operative, and to rate such progeny at 0.50 would be higher than the actual value. This result implies no contradiction to the foregoing rules; on the contrary, this certain lowering of the standard of purity shows that the pure blood is the essential amelioration, and that it is obliged to overcome the positive resistance offered by the inferior blood, and the continual tendency to return to the original native type. It farther proves that part of its power is annulled by the sole fact of its being mingled with blood less rich; and that by this its agency is essentially modified and its efficiency diminished. Local influences are therefore opposed to the success of such a cross, the inferior blood is probably indigenous to the country, and the constitutional tendency is in favor of the lowest standard of blood.

It is by applying this course of reasoning to crosses which have been made between the improved Short Horns imported into this country, and our original native cattle, and the superior grades of which are by the inexperienced considered as of about equal value to the thorough bred animals, that we shall perceive the difficulty, stated before, of keeping up the purity and value of any created breed by selection from that breed alone. The seeds of degradation are there, and the vigilance, care and *judgment*, which but few breeders of cattle can be supposed to possess, are required to prevent the retrograde tendency. The degeneracy may be slow, the good blood in the race may retard, but for the reasons given above, cannot wholly arrest the progress downwards. An occasional, and perhaps not unfreqnent infusiou of the original pure blood can alone do this.

When once the work of deterioration has commenced in a breed of animals, and no recourse is had to the method which is alone effectual in arresting its course—the mixture of pure blood,—the degredation will proceed with annually increasing velocity. The best stock of breeding cattle or horses in the country may be irreparably injured by the slightest accidental mixture of blood not known to be free from the slightest stain of impurity. The same table that demonstrates the improvement of a breed, when proper care is paid to the breeding, will prove the rapidity with which the same breed will deteriorate when left to the agency of degrading causes. Suppose the cattle breeder has a cow that has reached the purity of blood we have given to the 20th generation, that is crossed by a bull of no breeding; at the fourth generation there will be only $\frac{1}{16}$ part of pure blood remaining; at the tenth not a thousandth part; and at the twentieth, not a millionth part.

There are many farmers who imagine they have laid the foundation of an improved stock, when they have procured a half breed bull or cow, or perhaps two half breeds to commence with. But these half breeds will not in the next generation produce stock like themselves; no matter how nearly the parents may resemble each other. The progeny will resemble the remote ancestors on one side or the other, as the original blood happens to predominate; and instead of having as he hoped a new race of his own, the farmer will find he is possessed of several races, only resembling each other in the general fact that they get rapidly lower in the scale of excellence in each generation. The reasons for this result have been assigned above. A continual recurrence to pure blood alone can give certainty to the improvement.

In breeding, somewhat conflicting opinions are entertained as to the relative size of the male and female; some breeders contending that in all cases the female should be the largest, as affording more room for the development and nourishment of the fœtus. Cline, Lawrence, Cully, and other celebrated names are the advocates of this principle; and we think of its general soundness there can be little doubt. It has, however, found strenuous opponents in England, and these objections have been urged with much force in an Essay on Cattle from the pen of an eminent cattle dealer and breeder, John Weight of Chesterfield. Mr. W. assumes as the basis of his argument, that the male and female are of equal blood and of similar qualities in all respects, size excepted; and here the male is much the smallest, according to the system of Cline and Cully. As a natural result the produce will be of a size intermediate between the two, and

according to Mr. W. in a continually increasing ratio. "For instance, by beginning to breed from a cow of which the average weight of the herd, taking it to be uniform, is 70 stones, and from a bull of a herd, of which the averave weight is 65 stones, the female produce will be an average of 67½ stones. Observe *it is not the weight of the bull himself, but the average weight of the race of cows from which the bull is descended, that should be the groundwork of calculation.* Again; the heifer calf bred as above, will, when old enough, according to this principle, be put to a bull of a herd of cows 5 stone less on an average, and the next generation will have decreased to 65 stone. So that in the course of a few generations the original improved stock will be reduced to such a degree, that little will remain to distinguish it from some herds of small and inferior cattle, except color and the other characteristics of the species, independent of size." Here the case is stated in the strongest manner, and under circumstances that can scarcely occur in practice; breeders, therefore, must determine how much weight is to be allowed the argument.

Opinion, in the breeders of both cattle and horses, seems to incline to the practice of selecting animals for breeding, more with reference to certain desired qualities, than to size; certainly this has been the case with the breeds of improved Short Horns and Devons; though owing to superior care and keeping an evident improvement in size as well as quality is manifest. In no race of cattle is the difference between the size of the male and female more marked than in that of the Devon, the bull occupying a middle place in size between the ox and the cow, the latter being the smallest of the three. On the contrary, in some of the other English races of cattle, the male and the females are of nearly equal size, or the advantage, if any, is on the side of the female. It would seem, therefore, that more stress has been laid on the point of size by theoretical men, and perhaps by practical ones, than it has deserved, and that the great matter at issue is the purity of blood in the animal, or in the cross.

Reasoning from the nature of the case, it would seem that the bull and cow should be nearly of the same size, or that, if there is any difference, the advantage in size should be on the side of the female. If the male is much the largest in stature, the offspring will be weak bodied and leggy. If the male is the smallest, the progeny will be compact, heavy bodied, and tough, though a very great disparity on this side will produce animals far from beautiful. Extremes are here to be avoided; and if attempts are made to modify the size of animals by breeding, care must be taken not to lower the purity of blood in effecting this object. Many fine stocks of cattle and horses have been nearly ruined both in England and in this country, by an injudicious attempt to engraft upon a breed of high blood some desirable quality from a low bred race. As an instance, we may give one that occurred in Virginia a few years since, and is related by a writer in the Southern Agriculturist, "A young lady of good family fell desperately in love with an old man of substance, and, to overcome all difficulties, eloped with him to Canada. They were pursued and the girl brought back, using as her conveyance a hardy pacing pony of the Canadian breed. The fact of the runaway girl gave some notoriety to the poney, and though scarcely thirteen hands high, he was put to some of the largest mares in the country, some of them sixteen hands high. The result was a progeny of long-bodied, lizard or short-legged, squat animals, with diminutive extremeties and immense frames, the very caricatures of the animals wished, and the blood of which was not for a long time eradicated." It is a law of nature that her system of proportion as well as of races cannot be violated to any extent with impunity.

If breeders of cattle wish to produce a particular effect in crossing or improving a breed they usually pay more attention to the qualities of the cow than the bull; and the reason is, the young of all animals partake more of the qualities of the mother than the father; her constitution, her temper, in short all that is particularly good or bad about her, will, nine times out of ten, leave its impress on the offspring. Experience shows it to be so in the human race, and not less decisively in the ox or the horse. Constitutional ailments are more apt to effect the young when they exist in the female parent, and the cause is perfectly obvious—since for no inconsiderable part of their existence they form an integral part of herself, and for another part derive their food with all its good or evil qualities directly from her.

There is another thing of much importance in breeding perfect animals, which is usually wholly overlooked by those who are engaged as breeders of horses or cattle; and that is allowing, or rather requiring, too much service from the male. In England the best bulls are let to only a limited number of cows; here, on the contrary, one bull answers for a whole neighborhood. The best and most vigorous stallions will rarely get more than 70 or 75 foals in a season, yet they are frequently allowed twice or thrice that number of mares. Thirty ewes is the greatest number that should run with a buck, yet here it is not uncommon to allow double that number. The best cattle, the best horses, and the best sheep will usually be found in the hands of breeders who do not overtask their males, or allow them to commence the work of procreation too early. There is probably no race or breed of animals so faultless, as to render it proper to breed from any one of the race without selection. The Improved Short Horn approaches nearer that standard of excellence than any others, but observation and experience shows that even here, there is ample room for choice, and careful judicious selection. Animals are not unfrequently selected for breeders when so young that no correct judgment can be formed respecting them. Those that come to maturity early, may be so chosen with safety, but a colt or a calf cannot be confidently decided on, until two or three years old. The colt or the calf that gets the most milk, will, while running with the mother, be usually considered the best, but not unfrequently erroneously. The cow does not come to maturity before her fourth or fifth year, and the horse still later; and to decide on the milking qualities of the first while suckling the first calf; or on the form and spirit of the last while they are yet undeveloped, is most absurd.

Tropical Plant Company of Florida.

On the petition of Doctor H. Perrine, American Consul at Campeachy, accompanied by the special recommendation of the Governor of Florida, the legislative council of that Territory, on the 4th January, 1832, passed an Act to incorporate the Tropical Plant Company, with the view of encouraging the immediate domestication of valuable plants of the Tropics in Southern Florida, and their gradual acclimation throughout the Southern and Southwestern States. In the following October Dr. Perrine returned to Yucatan, and intended to use his utmost endeavors in Mexico and other portions of the Torrid Zone, to carry into execution the objects contemplated by said Act; and during the year 1833, through all the obstacles interposed by the destructive Choleras of Campeachy, New Orleans and Havana, he actually did transmit various valuable vegetables, which are still *propagating themselves* in the vicinity of Cape Florida. In subsequent years he also continued to forward tropical plants for Tropical Florida, amid all the difficulties placed in the way by man, nature and providence, as far as it was possible during merely brief intervals of disease, and with only occasional opportunities for their transmission by indirect routes, and by careless, inimical or fraudulent agents. As therefore the greatest number of the valuable vegetables sent by him to the Ports of the United States, during many years, had miscarried or perished during the voyage or after their arrival, he availed himself of the direct intercourse between Campeachy and Havana to forward also to the Royal Collection of Exotic Plants in Cuba, the peculiar productions of Yucatan, and thus secured the friendly correspondence and voluntary promise of the Professor of the Botanical Garden and Director of the Pattern Plantation near that city, to promote the progress of a Tropical Nursery in South Florida, with all the useful species of tropical vegetables collected by Royal Bounty in the Domesticating Nurseries of that Island during many years. Finally, on the supposed termination of the Seminole war, Dr. Perrine proceeded via New Orleans and Havana to Key West, in June 1837, with the intention of establishing a permanent Nursery of Tropical Plants; but, owing to the treachery of the Indians, he was compelled to leave his collections of seeds, &c. at Indian Key, in August, under the care of Charles Howe, Esq., P. M. and Inspector of the Post at that Inlet. There, to insure the preservation and propagation of the best varieties, a few seeds of each kind were planted in boxes of earth with the further view of facilitating the transportation of the growing plants to the main land on the first cessation of Indian hostilities; and by subsequent letters of said Howe it appears that in 186 boxes there were planted about 200 kinds of choice Tropical Plants, of which 50 to 60 species had already germinated and attracted the attention of all beholders. The Doctor thence proceeded to Charleston, S. C., to Washington, D. C., to Baltimore, Philadephia, to exhibit his specimens of fibrous leaved plants, whose living green leaves yield superior substitutes for Flax and Hemp; to visit the Gardens and Greenhouses in and near those cities, to obtain interviews with the Agricultural and Horticultural Societies; and generally to communicate and to acquire all information which might promote the final success of the enterprize of the company. As, however, the first charter had expired by its own terms, and the first Trustees had not taken any active interest in its continuation, he, in December last, forwarded another memorial to the Legislative Council of Florida, in which he requested, in general terms, that the "Honorable Assembly will be pleased to modify and amend the Act of Incorporation of the Tropical Plant Company, in such a manner that its provisions shall ensure the enduring confidence and the persevering co-operation of the Agriculturists of Florida and of the Southern and Southwestern States;" and on February 6th, 1838, the said Legislative Council *unanimously* passed the new act of Incorporation, in which were named as Co-Trustees James Webb, the Federal District Judge at Key West, and Chas. Howe, P. M. and Inspector of the Post at Indian Key. The Seminole warfare still continuing, Doctor Perrine remained the whole long session of Congress at Washington, and finally succeeded on the last day in obtaining the passage of a Bill for a conditional grant of a Township of land in South Florida, which had been unanimously reported by the Committee on Agriculture in the House of Representatives more than six years before. Of this he intends to devote to the use of the Company all the requisite quantities of soil which they can profitably employ, without any pecuniary recompense for the land which will be thus obtained. As the most lucrative staples of cultivation for the Association will consist of perennial plants, and as these may be comparatively neglected during the wet season of Tropical Florida, the Trustees believe that during the dry season, or winter of the Northern States, they can afford to employ those white laborers of the Northern Ports who are involuntary burthens on the public charaties of the cities during the cold weather, yet are necessary hands on the farms during hot weather.

As it is, however, essential that a sufficient Nursery of Tropical Plants for extensive cultivation should first be prepared, the Superintendent of the Company (Dr. P.) will continue his endeavors to accumulate at Indian Key and the adjacent Islands, during the Indian Hostilities, all the seeds, plants, and other elements for a pemanent Nursery on the main land, to be transferred at the first moment of safety. On account of the great geometrical progression in the multiplication of vegetables, a single year thus employed will be of invaluable importance to the country, and will overbalance in the mind of the Superintendent all the risque, trouble and expense to be endured by himself and family on the Florida Reef during the continuance of the Seminole war.

In giving this brief sketch of this important enterprize, it has occurred to us that all philanthropic patriots should lend their *immediate aid* to its infant steps by every means in their power. Among the *easy* means of aid during the ensuing winter, we may enumerate the following:

1. The transmission, to Indian Key, of at least two seeds or cuttings, &c. of every superior varieties of every valuable vegetable which the transmitter may consider adapted to the climate and soils of Tropical Florida.

2. The transmission of a detailed list of all the books in the possession of the transmitter which he may deem advisable to enter into a Botanical library especially adapted to Tropical Florida.

3. The transmission of a letter from each remitter who may desire to purchase one or more shares of stock in the Tropical Plant Company, announcing the number of shares, time, and mode of payments.

We have said the *easy means* of aid. The proprietors of greenhouses, &c. over the Northern States have many valuable plants of the Tropics which to them are mere objects of costly curiosity, but which may become staples of practical utility in Tropical Florida. Many gentlemen have friends in the Tropics who occasionally send them Tropical seed and plants which perish from their not having the means or the time to preserve them. To transmit them to Indian Key has now become a very easy and unexpensive labor, since the enlightened Commissioner of the Patent Office has begun the collection and distribution of seeds, and recommended an Agricultural Department, which was reported in a bill of last summer, and will become a law the next session of Congress. A package of seeds and cuttings, not exceeding two ounces in weight, may first be superscribed to Chas. How, P. M., Indian Key, T. Florida, and then enclosed in an envelope, directed to the Commissioner of the Patent Office, Washington, D. C., where it will be forwarded to Florida. As the financial concerns of the Company will all be managed by Chas. Howe, the P. M., the lists of books, and the orders for shares can all either be enclosed in the same packets as the seeds, or be addressed directly to Chas. Howe, P. M., Indian Key, Tropical Florida. The monthly mail from Charleston to Indian Key, leaves Charleston the 15th of every month, and hence packets and letters should be put into the post offices time enough to reach that city before the departure of the Mail Schooner.—Those gentlemen who reside in the Ports of Boston, New-York, Philadelphia and Baltimore can avail themselves of the direct opportunities afforded by vessels which are bound to some port of the Gulf of Mexico, but which touch at Key West and Indian Key. It should, however, be borne in mind that whatever aid is rendered, to be effectual, it must be rendered quickly during the present winter.

Improvement in the manufacture of Flax.

The August number of the Journal of the American Institute—a work we most cordially recommend to the patronage of our readers—contains a letter from J. F. Schermerhon to the Commissioner of Patents at Washington, describing a new mode of manufacturing flax, or rather so preparing it for manufacture that it can be spun on the common spinning jenny as easy as cotton, and converted into cloth with the greatest facility. Mr. S. Olcott of New Hope, Pa., is the inventor of the process, and should further tests and trials but realize a small part of the benefits indicated, it will prove a discovery of immense value to the North and West. The flax, as we understand the letter, is by a short and simple process, and with the aid of machinery, converted into what Mr. Olcott calls his short staple flax; is deprived of its gluten and coloring matter, and bleached, and is then ready for spinning.

Specimens of the thread made from the prepared flax, as well as samples of the flax itself, were left at the Office of the Institute, and attracted much notice from their beauty, and strength. The only objections started, were that by being made into short staple, the thread lost the smooth silk like appearance belonging to the unbroken fibre, and appeared more as if made of bleached tow, or rather of floss silk. When we reflect, however, on the smooth thread made from cotton, a material still shorter in fibre, and far inferior in strength, there can be no reasonable doubt that in the process of manufacturing linen cloth from prepared flax, methods of obviating this and other difficulties will be easily found. In the language of the Journal, this improvement, "must produce a wonderful advance of productive industry in our portion of the Union. In the West it will open mines of wealth. If flax can be produced and prepared for the spinning jenny as cheap as cotten, and converted into cloth as readily, then the Northern and Middle States can avail themselves of a great staple that will vie with the south; and this may be done at once, for we already know how to pin. It is not like silk, which is sure to succeed eventually, but progressively. The mulberries must have time to grow; and the knowledge requisite for managing the silk worms, taking care of the cocoons, reeling, &c. will require time to be generally adapted and understood."

Mr. Schermerhorn makes some interesting estimates of the profits that must ensue from the production and manufacture of flax. We have room for only the following:

"1. Estimate for buildings and machinery to manufacture 1000 tons of Short Staple flax,..... $30,000

The actual expense of preparing 1,000 tons of fine flax; including the raw material, at $250 a ton,.....	250,000
	$280,000

Now if we estimate this short staple flax worth fifty cents per pound, which will not be deemed an extravagant price when it is remembered that every lb. of such fine flax will make between four and five yards of fine linen, say four yards, and this can be made into fine linen at about four cents per yard: then 1,000 tons being 2,000,000 pounds will be worth at 50 cts. per lb.... $1,000,000

Now deduct from this as above for buildings, machinery, raw material, and expense of manufacturing the fine flax, at 250 dollars a ton,.....	280,000
which leaves a profit after paying for buildings, and washing, &c.,&c.,	$720,000

2. Estimate for manufacturing the fine short staple flax into fine linen. * * To manufacture 2,000,000 pounds, which will make 8,000,000 yards of linnen, you must have in operation about 850 looms, at an expense of one thousand dollars each,..... $850,000

Spinning 2,000,000 lbs. at 8 cts. per lb.	160,000
Weaving and putting up 8,000,000 yards, at 2 cents per yard,.....	160,000
2,000,000 lbs. of fine staple flax, at 50 cents per lb.....	1,000,000
	$2,170,000

If we estimate this fine linen at fifty cents per yard, then the value of 8,000,000, yards will be $4,000,000

From which deduct as before, for buildings, machinery, stock and labor,..	2,170,000
and a nett profit is left of.....	$1,830,000

Mr. Olcott, at his flax establishment at New Hope, works up at present, about three thousand tons of flax in the stem per year. This produces about 430 tons of fine short staple flax, ready for manufacture; from which it seems that it takes about 7 tons of stem to produce one ton of Short Staple flax. From Mr. S's letter we gather, that the lands in Penn. and N. Jersey, in the vicinity of New Hope, as an average crop, yield one ton of stem to the acre, for which Mr. Olcott pays at his factory twelve dollars a ton; and it is fair to conclude that the average yield of flax seed will be worth at least as much more from an acre, which will give the farmer 24 dollars per acre, as the avails of his flax crop, and this must be considered a good business. It is in the rich and beautiful prairies of the west, however, that we think the manufacture of flax will be carried to the greatest extent, and most profit. Should the flax noticed in our sketch of Mr. Parker's travels, as growing wild in the vallies beyond the Rocky Mountains, and being perennial like our grasses, be introduced into the western States, and succeed as we trust it may, it can then be mown like grass, and gathered year after year without a second sowing; and even the common flax cannot fail to yield a rich harvest to the industry of the fertile west.

STEAM PLOUGH AND DITCHER.

Enquiries are not unfrequently made, whether any attempts at the construction of machinery for ploughing and ditching in the great prairies of the west have been made, and with what success. From the following extract, which we copy from a letter in the Journal of the Institute at New-York, it appears that the attempt has been made, and promises to be entirely successful. Indeed there can be no reasonable doubt, that steam will yet be made to perform most of the mechanical operations of agriculture where circumstances are favorable to the exertion of such a power; unless some more manageable and equally energetic agent, should, in the present age of discoveries, be found to take its place.

"Mr. Olcott of New Hope, Penn., is now engaged in perfecting a steam plough and ditcher. which will greatly facilitate the cultivation of the prairies, and will be of immense importance to the farming interest of the west. I am not at liberty to say much on the subject at present, as he has not yet obtained a patent for it. I may, however, state that the whole apparatus can be placed on a common wagon, on a frame work of about twelve feet in length. The engine, it is calculated, will be of twelve horse power, and will move several ploughs at the same time, all one after the other, at the rate of about four miles an hour, and plough about twenty or twenty-five acres in a day, and that at a very small expense of fuel or waste of water. Of the complete success of this steam plough I can have no doubt, after seeing a man, by turning a crank, move a plough six inches deep, through a stiff. dry, clay sod. If one man can do this, certainly steam enough can be applied to turn this crank, and move half a dozen ploughs, at a velocity as great as the work can be well done. Until now I have despaired of ever seeing a steam plough so constructed, as to convert it into any practical purpose for the common farming operations of agriculture; but so confident am I that this will succeed, that I have directed the first plough of the kind that is finished to be forwarded to me, at La Fayette, Indiana. The same steam engine that is used for ploughing, may be used for many other purposes on a farm; such as making ditch and embankment for fences, draining lands, driving a threshing machine, a small corn, oil, or saw mill, or any kind of machinery you may wish to set in motion. Besides doing the ploughing, it may be used for sowing your small grain, harrowing and rolling your land. I have no doubt that by the labor saving machinery which can be put into operation to advantage on the western prairies, farmers there, with half a dozen hands, will be able to cultivate four times the quantity of land, that they can cultivate by the ordinary method of manual labor."

Some part of this gentleman's expectations may be too deeply tinged with *coleur du rose*, but that Mr. Olcott's apparatus is clearly an improvement on the costly immense steam ploughing machines that have been attempted in Great Britain, no one acquainted with these machines can doubt. The grand obstruction to the use of the steam plough in the immense prairies of Indiana and Illinois will be the want of wood. But the Geological Surveys of those States are bringing to light immense quantities of coal, and with an apparatus adapted to burning this mineral the want of wood will be less severely felt. At all events, however, our motto is, "speed the plough."

From the Yankee Farmer.

Draining and Irrigation.

The time is not far distant when much of our lowest lands now waste, the swamps, bogs, marshes, and miry places overflowed with water, will be reclaimed, and converted into the richest and most productive soils under cultivation. In some of the longest settled sections of the country, farmers are beginning to cultivate such lands, and find their profit in so doing. In the first settlement of the country, the elevated or high lands are first cleared. The soil being rendered fertile by the accumulation for ages of vegetable matter, the clearing and draining the low lands is generally postponed until the enhanced value of land, and the wants of an increasing population make it the farmer's interest to convert the dismal swamps into verdant fields. The next step, after clearing, is draining off the redundant waters. This is often found to be more formidable in anticipation than in practice. By the aid of a water level, to determine the place of the greatest descent, an outlet may generally be made without great labor and expense. A considerable portion of many farms lies useless by being overflowed or too wet. We frequently perceive portions covered with various kinds of low bushes unfit for fuel. In the course of time the vegetable matter has been washed from the higher lands and hills, and deposited in the bogs, swamps and vallies below. This matter, in its decomposed state, constitutes the unctuous black loam or mud, mixed, more or less, with clay or sand. As it supplies the food, which plants require, these low lands, when reclaimed, are the richest parts of a farm. The potato flourishes best in such soils, when drained; and experience will probably prove that corn, wheat and various other kinds of vegetables may also be grown in low loamy soils to very great advantage. But draining would be profitable if for no other purpose than

to enable the farmer to obtain a plentiful supply of mud to make the compost manure, in order to restore the fertility of his lands which have become exhausted by long cropping or otherwise. The small brooks and water-courses, often originating from living springs in the high parts of farms, overflow and render waste much land below, which otherwise would be valuable, and in their natural descent empty into the bogs, swamps, &c.

Our present purpose is to invite the attention of farmers to the subject of turning such water courses, in order to prevent the injury to the lands thus overflowed, and also to conduct the springs or brooks where they may do great benefit. What proportion of farms have the privilege of such springs we are unable to say; but farmers who have them within their bounds may derive very great advantages from turning them. This may be done oftentimes with little labor and expense. A single furrow, made with the plough, beginning at the fountain head of a spring and continuing the furrow in a line nearly up to the water level of the fountain, will sometimes be sufficient to carry a spring along by the side of a hill or swell to a considerable distance. Our practice has been to cut two furrows with the plough, clearing out the second with the hoe and spade; and we have met with good success in turning several springs, with little labor. We have thus caused boggy and miry places to become sufficiently dry for pasture or cultivation, and conducted the springs where they may be used for irrigation, and for watering the cattle at the barn-yard. Several hills of rising ground intervening between the fountain and the yard, instead of cutting deep channels through in a straight line, the furrow was cut round the hills, in a serpentine course. Suppose, for instance, that the fountain head of a spring has an elevation of one foot above a distant cultivated field, and that a straight line between the fountain and the field would strike several hills or elevations higher than the fountain, lying between the fountain and the field to which the water is to be conducted—in such case, instead of cutting a passage through the hills or swells, it is only necessary to run the ditch round the same in a serpentine course, keeping the whole line of the ditch very nearly up to a water level with the fountain head of the spring. Although this is as simple as it is evident, it is not always thought of. In past times, our *wise* road-makers would cut the roads over the *tops* of hills although the distance round the *base* would be the same.

Where water cannot be conducted, by its natural descent, in a ditch easily made, it may be conveyed by pipes, and carried over swells of land higher than the fountain head, provided the termination of the pipe, where it discharges, be lower than the fountain head. It is no mystery to make water "run up hill" by this method. Upon the same principle, liquids are drawn from a hogshead by using a siphon. It is believed that should farmers turn their attention to their springs with a view to irrigation, they would derive great benefits. How many can be found, which with half a day's labor, can be turned from their natural courses into artificial channels, from which outlets may be made to moisten our mowing and cultivated fields in the dry season of the year?

Great attention is paid to the important subject of irrigation in England, although here it seems to be generally wholly neglected. There where water cannot be obtained at small expense, immense sums are expended. The fertilizing qualities of water in aid of vegetation, we need not attempt to explain. The fact that the farmer can get no products without it, is sufficient for us to know. No one can doubt that our mowing fields would produce more abundantly by occasionally being moistened by artificial streams, or warter-courses. Wherever the water course has the smallest elevation above the pastures or field, the latter may easily be moistened or overflowed, as occasion may require.

To make observations, and ascertain the points to which springs may be conducted, a water-level may generally be necessary. Instead of paying from five to ten dollars for such an instrument, any farmer may in a few minutes make one sufficiently correct for ordinary purposes. Take a narrow straight board, 3 or 4 feet long—plane down the centre a little to prevent the water running off at the sides—bore an augur hole at each end so as to admit two short sticks, the other ends to be stuck into the ground—then pour water into the centre of the board until part of it runs off equally at each end—and take sight upon the water's surface. As water ever preserves its uniform level, other methods may easily be adopted to take water-levels with sufficient accuracy.

We have seen but few publications in our agricultural papers upon the subject or irrigation—and our hasty suggestions are not derived from scientific sources, but simply from common observation. They are simple enough certainly, and perhaps too much so for publication. But there are many simple facts pertaining to our farms which almost strike our sense without making any impression. A brook has been running during our lives in its natural course. The idea perhaps never occurs to us that by diverting its course we may increase the vegetable growth. Sometimes we perceive in our portions and cultivated fields a spongy spot, covered with green, from which a little water oozes, perhaps out of a bed of clay. It seldom occurs to us that by digging down we may open a never failing spring. Two springs thus situated we accidently discovered. Since removing several tons of clay and sand which obstructed the passage, there has been a copious effusion of the purest water. It is believed that by a little attention and observation many farmers may discover and open springs of great value.

We have merely glanced at the subject of irrigation.—It requires the light of science to present it to us in its important points of view. Such light we may hope to receive through the medium of our agricultural papers.

W. CLAGGETT.

Portsmouth, June 26, 1838.

From the London Farmer's Magazine, August, 1838.

What Quantity of Manure should be applied to the Acre?

The answer to this question involves many considerations which preclude a definitive reply, such as the condition of the land, the quality of the manure, and the kind of crop. Too much, as well as too little manure may be applied. What would be beneficial for an autumn-ripening, or hoed crop, would be prejudicial to a small grain, or summer-ripening crop, and more particularly if the manure is applied in an unfermented state, and be withal a waste of fertilizing matter. Twenty tons to the acre would not be too much for corn, potatoes, ruta baga, &c., if applied broad-cast, and ploughed in; but if long manure, and applied in the drill, or hill, and a dry season should ensue, it might prove an injury; and if this quantity of long, or even short manure, were applied to the acre of small spring grain, it would probably cause a flush of straw, likely to be affected with rust, at the expense of the more valuable part—the grain. Dr. Coventry, late professor of agriculture in the University of Edinburgh, whose business and study it was to collect data, and make correct deductions in this and other agricultural matters, was of the opinion, that from four to five tons are yearly requisite to keep up the fertility of a soil of the kind usually denominated spit, or tolerably rotted dung; and this supply he thinks a well managed farm may be made to produce. To show how this quantity may be obtained, and how it should be applied, we quote from Mr. Youatt, the writer of British Husbandry.

"According to that calculation," says our author, "it must be observed, that the course of crops is supposed to consist—on light soils, of the alternate plan of corn and green crops, (see New System of Husbandry,)—on clays which do not admit of that system, that the holding contain a proportionate quantity of grass land; and that the quantity of manure should be supplied not in small quantities annually, but in large ones, at intermediate distances of four, five, and six years. Light soils, in the common course of husbandry, rarely require the application of putrescent manure oftener than once in four years, and in all cases where the clover is allowed to stand two seasons, it may be deferred without disadvantage for another year. Heavy soils may run six years without it, provided that the land be laid one year in fallow, and that there be sufficient meadow to be reckoned at least one crop in the course. It being, however, clearly understood, that—whether on light or heavy land—nothing but grain, seeds and live stock is to be sold off the farm, unless replaced with an equal portion of purchased dung; that the whole of the green crops, the haulm of pulse, and the straw of corn, be used in the most economical manner; and that some of the live stock be either soiled or fattened upon oilcake, which plan, if carefully pursued on good soils, with capital sufficient to secure an abundant working and fattening stock of cattle, ought, under fair management, to furnish an adequate supply of dung for any of the usual courses of culture."

Having thus submitted to our readers all that occurs to us of importance on the subject of farm-yard manure, we shall here recapitulate a summary of the chief points which we deem particularly worthy of their consideration:

1. To bottom the farm-yard with furze, fern, (in Yankee dialect, brake,) dry haulm, (stubble, &c.) or any other loose refuse that takes the longest time to dissolve; and over that to bed it deep with straw.

2. To occasionally remove the cribs of store cattle to different parts of the straw-yard, in order that their dung may be dropped, and their litter trodden, equally.

3. To spread the dung of other animals, when thrown into the yards, in equal layers over every part.

4. To remove the dung from the yard at least once, or oftener, during the winter, to the mixen.

5. To turn and mix all dung-hills, until the woody or fibrous texture of the matter contained in them, and the roots and seeds of weeds, be completely decomposed, and until they emit a foul putrid smell, by which time they reach their greatest degree of strength, and arrive at the state of spit-dung.

6. To keep the dung in an equal state of moisture, so as to prevent any portion of the heap from becoming fire-fanged. If the fermentation be too rapid, heavy watering will abate the heat; but it will afterwards revive with increased force, unless the heap be either trodden firmly down or covered with mould to exclude the air.

7. To ferment the dung, if to be laid upon arable land during the autumn, in a much less degree than that to be applied before a spring sowing.

8. To lay a larger quantity on cold and wet lands than on those of a lighter nature, because the former require to be corrected by the warmth of the dung, while, on dry, sandy, and gravelly soils, the application of too much dung is apt to burn up the plants. Stiff land will also be loosened by the undecayed fibres of long dung, which although its putrefaction will thus be retarded, and its fertilizing power delayed, will yet ultimately afford nourishment.

9. To form composts with dung, or other animal and vegetable substances, and earth, for application to light soils.

10. To spread the manure upon the land, when carried to the field, with the least possible delay; and, if laid upon arable, to turn it immediately into the soil.

11. To preserve the drainage from stables and dung-hills in every possible way, and if not applied in a liquid tate, to throw it again upon the mixen.

12. To try experiments, during a series of years, upon the same soils and crops, with equal quantities of dung, laid on fresh, and afterwards rotted; in order to ascertain the result of their application to the land. The whole quantity to be first weighed or measured, and then divided.

The fermentation of farm-yard manure is, in fact, a subject of far greater importance than is generally imagined, for on a due estimation of its value mainly depends the individual success, as well as the national prosperity of our agriculture. The experiments to which we point, cannot therefore, fail to come home to the interests of every man; they may be made without expense, and without any other trouble than the mere exercise of common observation and intelligence. Leaving, however, aside the discussion concerning the disputed worth of fresh or fermented—of long or short dung—let the farmer sedulously bend his attention to the accumulation of the utmost quantity that it may be in his power to procure. The manner and the time of using it, in either state, must however, be governed by circumstances which may not always be within his control; and every judicious husbandman will rather accommodate himself to the exigency of the case than adhere strictly to his own notions of what he conceives to be the best practice. In fine whether favoring the one or the other side of the question, let him collect all he can, apply it carefully to his crops, and then trusting to events, "*let the land and the muck settle it.*"

LUCERNE GRASS.

Roxbury, Sept. 24th, 1838.

To the Editor of the New England Farmer.

Sir—The enclosed letter was written three years since, (as its date imports) but withheld from a fear, that I had *annoyed* the public with lucerne grass, and that people would begin to call me the "man with *one idea*." My late success has induced me to publish it, and I invite all farmers who may have opportunity, to visit my *third crop this dry year*. It will not be cut before the 6th of October. It is a beautiful sight in such a season.

John Lowell.

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Mr. Fessenden—I recur once more, in spite of the ill success of my former efforts, to the subject of this invaluable grass. I feel a full conviction that it will be, sooner or later, the favorite grass of the New England States, for whose soil and climate, it is peculiarly adapted. It will finally take the place of the Dutch clover throughout New England. It is better adapted to our soil. It bears our severe drouths much better than any grass we have hitherto cultivated.

I begin by stating my own experience. It is of fifteen years duration. That is no trifling trial. I go on regularly in the extension of its culture and upon dry, sandy, and gravelly lands, it will forever be for me, the favorite grass. It may be asked, what are the peculiar advantages which you have experienced from this grass? I answer, first, double crops in weight at least, from the same extent of ground. The Lucerne will give in this state, two good crops, the *first* season *in which* it is *sown*. Is there any grass, which will do this? It will endure the severest drouths when all *other grasses* fail. What grass will do this? It is the favorite grass of the horse and the cow. It will fatten them faster than any other grass. It will do as much for a horse as an ample supply of grass, and four quarts of grain a day, in keeping him in flesh and strength.

But many persons have failed in attempts to raise it. And what then? Does it follow that it is not worthy of culture? By no means. If *one* man uniformly succeeds for fifteen years, there must be some good reasons why others *do not* succeed. Let us try to seek out the causes of their ill success. It is not the climate, because it stands our severest *winters* unhurt, when clover *fails*. It stands our severe drouths, when clover *dies*.

It has been intimated, that *my* success is owing to peculiar care, and high culture. This is *not so*. It is treated exactly like the red clover, and I give to it, purposely, my *worst* lands. Not that it does not do *honor* to the *best*. It will reward the cultivator in the *best* soils.

What then have been the causes of its failure with *many* cultivators? I will endeavor to state my opinion on that subject. The lucerne will not grow in most meadow *lands at all*. It cannot bear low lands. It will die, if water rests upon it in winter. On uplands, it has failed from an insufficiency of *seed*. It requires 20 pounds to the acre and the price of the seed has been so high that our farmers would not buy it or in too small quantities, but it can be afforded from Europe at 14 cents per pound though our seedsmen cannot afford to sell it at *that* price on account of the *limited* demand. It is like every thing else, if the demand is small, the supply will be *small* and *high*. My object is, to recommend its culture, and when it becomes general, the seed will be abundant and cheap, but no man must expect a crop without 20 pounds to the acre of seed, bnt as it endures five years *at least*, and pays for its cost the first season, it is a miserable and wretched economy, which, withholding the seed, decries the plant as unproductive.

It is with me, the richest treasure. My farm is small, it is true, but it is a grazing farm, and my produce is 20 tons of hay. Surely the experience of such a farmer for 15 years, is worth something. JOHN LOWELL.

August 6, 1835.

I have already cut two crops from lucerne, sown in April last; and two crops from lucerne two years old, and two crops of hay from lucerne three years old, at the rate of three tons per acre. I expect two crops more from each. These are *facts* notorious to them, who pass by my grounds.

What *have we like it?* Lucerne must be, and *will be* the grass of the south shore of this state, and other light lands of New England.

Let farmers, who pass this way visit my lands, let them see the grass, and the hay produced from it, and inquire of those who feed my stock, and they will be satisfied, that the lucerne is yet to be a blessing to their farms.

From the American Silk Grower.

The Culture of Silk.

MESSRS. EDITORS—My last hatching of silk worms for this season, the product from about three ounces of eggs, have now nearly finished their course of eating, and all beginning to spin their cocoons. As the present time appears to be a new era in the silk culture in this country, and the retarding the eggs from hatching to this late day in the season, being something new, and not even recorded in the histories of the oldest silk growing countries in the world, I will give a sketch of the manner I kept my eggs, and the management of the worms. During last winter my eggs were kept in a dry cellar, suspended to the timbers overhead, to secure them from the mice, and about the first of March I took them from the cellar to put in the ice house. I rolled up the cloths and papers on which the eggs were deposited, and put them into glass and stoneware jars and tied bladders over the tops. The jars I put in a wooden box, which was enclosed in another box, larger, leaving a space about three inches, which space I filled with pulverized charcoal, taking special care to put coal in the bottom between them. These boxes I placed in the ice house on the ice, and covered them over with straw. As often as once a week I took the eggs out of the jars to see how they were keeping, and of course aired them, and then placed them back as before. I regret I did not find the temperature the eggs were in, but I think it must have been about forty degrees, and perhaps a little above that. Several times during the summer I took out eggs to hatch, and found they were keeping well. The twentieth of July I took out the last of my eggs, about three ounces, and the weather being excessively warm, I first kept them in my cellar four or five days, and then in a cool room in my house two or three days more, when I took them to the cocoonery, and on the 31st July, and on the 1st and 2d of August, they hatched. The few that hatched on the fourth day I considered weakly, and did not save them. I took special care that each day's hatching were selected by themselves. I separated the young worms from the unhatched eggs by laying strips of leaves on them, on which they would immediately crawl to eat, when I moved them generally on newspapers, which I placed on the shelf. I fed them on the papers the first week with the leaves cut quite fine, which I sprinkled on the young worms, but they would soon get on top of them, and eat such parts as they liked. After the first week I changed them from their places by laying a net work frame gently on them, and sprinkled the leaves on the net work, when they would come up through the interstices to eat, and after being fed two or three days there would be a kind of mat formed from the refuse part of the leaves, so the net work could be raised with the worms. The litter beneath was removed, and the frame again laid upon the shelf, and after that I continued to change them every two or three days, with the net work, until the present time. I cut the leaves during the whole time of feeding, but much the first, when the worms were small. I fed them every two hours during the day, first quite early in the morning, and the last time between sundown and dusk, and they would eat as well during the warm nights as in the day time. Silk worms eat about half an hour at a time, and then rest about so long, when they again commence eating; so, during such warm, dry weather as we have had the present summer, they should have fresh leaves often. When the weather was warmest I wet the floor of the cocoonery every day; kept the cocoonery clean from litter, and gave the worms all the fresh air I could, being careful to observe that the draft was not sufficient to blow them from the hurdles. And now I have the pleasure to say they have been, during their whole course, as active and healthful as any I ever saw. I have not seen a sickly worm, save by accident one happened to get hurt. I have fed them wholly on the leaf of the Morus multicaulis, and am fully convinced we have no leaf better suited to the taste of the silk worm.

There may yet be a question whether the mulberry leaves are as nutricious for the silk worm at this time of year as earlier in the season. I think they are not.

Yours, respectfully, CHAUNCEY STONE.

Burlington, Sept. 3d, 1838.

THE CIDER MAKER.

Mr. William Kenrick, in his valuable publication entitled the New American Orchardist, in speaking of cider says:

Newark in New Jersey, is reputed one of the most famous places in America for its cider. The cider apple most celebrated there is the Harrison apple, a native fruit; and cider made from this fruit, when fined and fit for bottling, frequently brings $10 per barrel, according to Mr. Coxe. This and the Hughs' Virginia Crab are the two most celebrated cider apples of America. Old trees growing in dry soils produce, it is said, the best cider. A good cider apple is saccharine and astringent.

To make good cider, the first requisite is suitable fruit; it is equally necessary that the fruit should be not merely mellow, but *thoroughly mature*, rotten apples being excluded; and ripe if possible at the suitable period, or about the first of November, or from the first to the middle, after the excessive heat of the season is past, and while sufficient warmth yet remains to enable the fermentation to progress slowly as it ought.

The fruit should be gathered by hand or shaken from the tree in dry weather, when it is at perfect maturity; and the ground should be covered with coarse cloths or Russia mats beneath, to prevent bruising, and consequent rottenness, before the grinding commences. Unripe fruit should be laid in large masses, protected from dews and rain, to *sweat* and hurry on its maturity, when the suitable time for making approaches. The earlier fruits should be laid in thin layers on stagings to preserve them to the suitable period for making, protected alike from rain and dews, and where they may be benefitted by currents of cool, dry air.

Each variety should be kept separate, that those ripening at the same period may be ground together.

In grinding, the most perfect machinery should be used to reduce the whole fruit, skin and seeds to a fine pulp. This should, if possible, be performed in cool weather. The late Joseph Cooper, of New Jersey, has observed, emphatically, that "the longer a cheese lies after being ground, before pressing, the better for the cider, provided it escapes fermentation until the pressing is completed," and he farther observes, "that a sour apple after being bruised on one side, becomes rich and sweet after it has changed to a brown color, while it yet retains its acid taste on the opposite side." When the pomace united to the juice is thus suffered for a time to remain, it undergoes a chemical change; the saccharine principle is developed, it will be found rich and sweet; sugar is in this case produced by the prolonged union of the bruised pulp and juice, which could never have been formed in that quantity had they been sooner separated.

The best cider is made, according to Dr. Mease, by the following process:—The liquor on coming from the press is strained through hair cloths, or sieves, and put into clean, tight, strong hogsheads; these are filled, and the bung left out, and placed in cool airy cellars, or on the north sides of buildings where the air circulates. In a a day, or sometimes less, according to the state of the weather and maturity of the fruit, the pulp begins to rise and flows from the bung for a few hours, or a day or two at farthest, at the intervals of two or three hours the hogshead is replenished, and kept full from a portion of the same liquor kept in reserve for this purpose, as it is deemed necessary that the whole pulp should overflow, that none may return again into the liquor. The moment the pulp has ceased rising, white bubbles are perceived—the liquor is in this critical moment fine or clear, and must be instantly drawn off by a cock or faucet within three inches of the bottom.

On drawing off the cider it must be put into a clean cask and closely watched, the fermentation restrained or prevented; when, therefore, white bubbles as mentioned above, are again perceived at the bung hole, rack it again immediately, after which it will probably not ferment till March, when, it must be racked off as before, and if possible in clear weather. As soon as safety will admit after the first racking, a small hole must be bored near the bung and the bung driven tight; this must be finally sealed and a spile inserted, giving it vent occasionally, as circumstances require. In March, if not perfectly fine, it is drawn from the lees in a clear day and fined; this is usually effected by dissolving in a few quarts of cider, three staples of isinglass, stirring it often; this is poured into the hogshead. It must be drawn off again in ten or twelve days after, lest the sediment should rise; if not fine now, repeat the fining again.

Dr. Darwin has recommended that the liquor, as soon as the pulp has risen, should be placed in a cool situation in casks of remarkable strength, and the liquor closely confined from the bottom. The experiment has been tried with good success; the fermentation goes on slowly, and an excellent cider is generally the result.

A handful of well powdered clay to a barrel is said to check the fermentation. This is stated by Dr. Mease.—And with the view of preventing the escape of the carbonic acid, and to prevent the liquid from imbibing oxygen from the atmosphere, a pint of olive oil has been recommended to each hogshead. The excellent cider exhibited by Mr. Rice was prepared by adding two gallons of New England rum to each barrel when first made. In February or March it was racked off in clear weather, and two quarts more of New England rum added to each barrel. Cider well fermented may be frozen down to any requisite degree of strength. In freezing, the watery parts are separated and freeze first, and the stronger parts are drawn off from the centre. I finish by adding the following general rules; they will answer for all general purposes, they are the conclusions from what is previously stated. 1. Gather the fruit according to the foregoing rules, let it be *thoroughly ripe* when ground, which should be about the middle of November. 2. Let the pomace remain from two to four days, according to the state of the weather, stirring it every day till it is put to the press. 3. If the liquor is deficient in the saccharine principle, the defect may be remedied in the beginning, by the addition of saccharine substances or alcohol. 4. Let the liquor be immediately placed in a cool cellar in *remarkably strong, tight sweet* casks; after the pulp has all overflown, confine the the liquor down by driving the bung hard and by sealing; a vent must be left, and the spile carefully drawn at times, but only when absolutely necessary, to prevent the casks from bursting. The charcoal as recommended by Mr. Knight deserves trial.

Fresh and sweet pomace, directly from the press, and boiled or steamed, and mixed with a small portion of meal, is a valuable article for food or for fattening horses, cattle and swine.

From the Indiana Farmer.

New-York Husbandry.---No. 1.

TO THE EDITORS OF THE INDIANA FARMER—The invitation to communicate for the columns of the Farmer, I received some time since; but the care and labor of securing the harvests, have prevented my noticing it sooner. And even now I commence with reluctance, believing it were always better to practice than preach, except our preaching exactly corresponds with our practice. And here I may remark, that whatever I shall advocate in the course of my communications will be what I know to be fact, gained by experience. Nevertheless, I ask no one to take what I say for granted, until they have proved it to be fact, for I hold that all knowledge beneficial to man should be gained by experience.

It is astonishing to observe the vast improvement there has been made in the science of agriculture, within the last few years in our state—and appearances seem to indicate, that Indiana is not willing to be left far in the back ground.

One great means of improvement here has been, and still continues to be, the general circulation of agricultural periodicals. In the commencement of these periodicals, there was a vast deal of opposition to what was termed *book farming;* but happily the tide of public opinion has turned in this respect, and now, you will scarcely enter a farmer's dwelling except you see one or more Agricultural works. These are the vehicles whereby we disseminate our views in relation to the different branches of husbandry, and by this means in my estimation, much good has resulted.

As I intend this communication as merely introductory, perhaps I shall be excused for disgressing. I visited the state of Indiana in the spring of 1837, and observed many things and asked many questions: and was very frequently called yankee by so doing. I observed a soil in almost all parts where I travelled (which was from Richmond to some thirty miles west from Indianapolis and thence to Madison) exceedingly productive, but I did not observe what I call good systematic farming generally practiced.

I hope I shall offend no one if I point out what I consider to be errors; and if improvement is the paramont object with us, we shall always be willing to learn. I have been bred to the profession of a farmer, and so far from understanding the business to perfection, I find that I have but just commenced the study. Indeed, if we will but observe the works of nature, we may learn something useful every day. But to return—on my route from Indianapolis to Madison the last days of March, I observed whole fields of corn, standing where it grew, some put up in "stouts" and some on the hill. I examined many fields, and as nearly as I could estimate, about one third of the crop was in a damaged state. This I consider to be bad economy. I also observed a custom, too generally prevalent among the Yeomanry of Indiana, of drinking the nauseous stuff called whiskey; and I may here remark, that in all my observations, I never saw a confirmed whisky drinker, a good farmer. In very many of the country Inns, I was saluted with "come stanger take something to drink." Twelve or fifteen years ago, in western New-York, it was almost an invariable practice with farmers (except the society of friends who discontinued its use some forty years ago,) to furnish strong drinks in hay time and harvest. Indeed, it was thought entirely impossible to secure the harvest without it. Now, where is the farmer that uses it at all? Scarcely one can be found. The result is;—our harvests are quicker and better secured,—peace and quietude reign predominent around the farmer's dwelling—all is order—all is harmony. Is not here a vast improvement? In my peregrinations through your state, I could not help comparing the soil, the markets, the method of transporting produce, &c. to Western New-York 17 years ago. And then I came to the conclusion, that Indiana might, at no distant day, arrive where New-York is now; and that the method of farming pursued here; together with the different kinds of grain and grasses, were well adapted to the soil and climate of Indiana. Among the improvements here, and which have proved of great benefit, may be mentioned—under draining—by which many of our marshes and wet lands, have been rendered the most productive—rotation of crops—manuring—seeding—and the use of labor saving machines; such as the "corn planter," the threshing machine, the drill barrow, the cultivator, &c.

Under draining in my opinion would be of vast benefit in many places in Indiana. There has as much, and perhaps more benefit resulted with us from this practice, than any other. The editors perhaps will give the method to be adopted in their construction;—and if it would be acceptable, perhaps I might make it a subject of some future essay.

I will here mention the advantage, that might have accrued to many farmers of Indiana by taking an agricultural paper. I had very frequent opportunities of conversing with the farmers, on various subjects; and the general complaint was, that their wheat had been much killed by the winter, for two or three years previous. I frequently put the question "why not substitute spring wheat? and in every case was answered—"I did not know there was such a kind." Now if those farmers, had taken an agricultural work, they would have known that there was such a kind of wheat, and which kind was best. The winters of 1834–5–6 with us, were very severe on wheat, and in consequence the crop was shortened near one half; but as soon as the winter wheat failed, the spring varieties were substituted, and in consequence thousands of dollars have been saved to our state. It is the practice here when a field is partially injured, to sow on spring wheat and harrow and roll after, which does not injure the roots of the winter wheat, and thus in most cases, a good crop is secured.

I notice in No. 49 of the Farmer now before me, under the editorial head, where the editor is describing the farm and management of John Jessup, this remark—"Cattle are often injured and frequently die by feeding on clover exclusively." I would respectfully ask is this known to be the fact. Thousands of cattle have died, and are dying, with us, from feeding on June grass, sometimes called spear grass. I would ask those farmers of Indiana having cattle injured by eating clover, if there is not some of this kind of grass in their pastures. My limits will not allow me to speak of this disease, or the cause producing it—but I suspect it is the same disease attributed to feeding on clover. In my next I shall probably stick more to the "text," and treat on the management of corn, as practiced in Western New-York; not doubting, from the knowledge I have of Indiana, that it will answer equally well there. Respectfully yours,

GEO. WILLETS.

Skaneateles, Onondaga Co., N. Y. 8th mo. 28th, 1838.

Charcoal for Hogs.

I will give you my experience and opinion, upon the manner of keeping hogs in health while they are fattening. I have lost in years back a great may hogs—had others sick and languishing, so that they would not fatten; and been obliged to turn them out of my pen. I always observed that when I did so, they either died immediately, or if they lived a few days, got well. I always observed too that my hogs in the pen would eat and chew with eagerness, all hard substances such as peach stones, bones, and even small stones; and that they were particularly fond of coals, such as had by accident got from the fire into their feed. I had also observed, that whenever I let a sick hog out of the pen, he would go to eating such things, and even the ground itself. I then thought of trying the experiment, and collected a peck of coals from my ashes and put them into my pen. They were immediately devoured. I gave them more, until my hogs had eaten at least two quarts each. I thought it did them good, and continued to supply them daily with them. I have since that time (two years ago) fattened more than fifty hogs, and never had a sick one, nor one whose pork has been measley or affected with any disease. I believe it to be an effectual remedy, for a very serious difficulty with farmers. My neighbors, to whom I have communicated my plan, have tried it with the same success, and if you please, you may give it publicity in you paper.—*Penn. Farmer.*

Agriculture of Dumfries-shire.

The agriculture of Dumfries-shire may be considered as a *national* object. The lands which are devoted to framing, and whose rental is about 200,000*l.*, at twenty-five years' purchase, are worth five millions sterling; and the buildings have cost the land proprietors at two and a-half years' rents, another half million. The farmers do not find it safe to enter on leases with less than about 5*l.* of capital and credit per arable acre in course of cultivation, which for 160,000 acres in the rotation fields, added to 10*s.* per acre for nearly three times as great an extent not in cultivation, would indicate in all a farming capital of about one million sterling, for the whole of Dumfries-shire, the property of the farmers themselves. Let this be added to the value of the lands and farm buildings, and it would seem that about six millions and a-half sterling are embarked in the farming of this county.

The returns in rent are very moderate, surely, as above; but the *gross returns* ought to be very considerable,—three times the rent of lands in cultivation being thought by no means excessive to cover the whole outlay, risk and interest with moderate profits; and twice the rent of lands in pasturage, all as the gross returns of the land. Now, as the prices of these times can hardly be calculated above 4*l.* for the returns per English acre, or 5*l.* per Scottish acre under crops, and the lands in crop are not above two-fifths of the whole fields, or cultivated lands, the other three-fifths being in grass,

64,000 acres in white and green crops, at 4*l.* per acre, would give as the total of *crops* yearly,	£256,000
And *cattle*, having for some time returned little for the mere grass, and being also rather fewer in number than in 1812 though better grazed, the grass returns, of 30,000, at 1*l.* 10*s.* each, are,	45,000
Sheep are fully as numerous as in 1812 having partly the lower pastures now and the returns for two or three years have been improved, but still the mere pasturage returns of 200,000 sheep, at 7*s.* 6*d.* each, would exceed the average beyond three years, and are,	75,000
Pigs return little for mere grazing, certainly not above 1*l.* for each, which for 30,000 pigs would be,	30,000
The breeding of *horses* is chiefly to keep up the stock; and for *poultry*, *bees*, &c., the returns are small; but it may be only fair to state the whole at a sum equal to the grosss returns from pigs being	30,000
And the total returns from *crops* and *pasturage* would thus be,	£436,000

A sum fully high stated, as is believed, on reviewing it; and these returns are becoming less and less yearly, instead of increasing, as they ought to do, so as to encourage improvement in arable land.—*Dr. Singer, in the New Statistical Account of Scotland.*

From the Ohio Farmer.

THE CROPS.

Several of the eastern agricultural journals are collecting and publishing information of the condition of the crops this season, that those who have productions to sell may be early informed of the probable state of the markets and of the value of their commodities. No one has, perhaps, been more industrious in this way than Mr. Roberts of the Baltimore Farmer and Gardener. From what he has collected and from other sources, we are informed that the drouth of this summer has been of unusual extent, and by no means confined to a portion of our wide Territory, but extended over our northern, middle, western and south-western states, embracing in general all that Territory which lies between the St. Lawrence and North Carolina on the sea board and the Atlantic, the Lakes and the Arkansas river, west and south-westwardly. The early grain crops, such as wheat, rye and oats, and the hay crops, seem in general to have been unusually abundant, and of fair quality—the late crops, such as potatoes, corn, &c. &c., are very inferior both in quantity and quality. Early potatoes have made a fair crop, and are now commanding a high price in this vicinity, bringing readily from $1 to $1,25 per bushel—late potatoes have rarely produced a quantity equal to the seed planted. On our own land they have not produced one half that quantity, although highly manured, and the ground kept as light as was practicable. The growth of the tubers seems to have been checked when it was yet only commenced, and in consequence we have potatoes almost too small to justify one in picking them up, even at the present high prices. The Farmers of this district will feel the loss of this crop more sensibly perhaps than any other, because there is not probably in this country a quantity equal to one half those usually planted, leaving literally none for consumption. Corn is also much injured, but of this there is a fair crop on the bottoms; they will yield as nearly as we can determine about 60 bushels to the acre, being rather more than two-thirds of a crop. On the table lands the crops will, we suppose, be less than half. Corn now readily brings fifty cents per bushel in our market, so that to those farmers who sell their crops, the high prices are, perhaps, a full compensation for the diminished quantity. In this valley a scarcity of corn is, however, a serious evil, large quantities of pork being fattened here for exportation, and the profit on it furnishes one of the prominent sources of wealth to our people. We might extend this view of the matter to other crops, and speculate further upon the probable consequences of this peculiar state of things upon the markets, but we consider it unnecessary. Enough has been said to show that staple articles of food for man or beast must necessarily command unusual prices; stock, of whatever kind, must therefore be somewhat depressed in value. By an examination of the prices offered for grain, and other commodities, in all our western markets we find they are steadily advancing. On a review of the whole matter we find, that though the expectations of the husbandmen of this neighborhood, and of the country generally, have in some respects been disappointed, they have in truth much cause of thankfulness for the liberal stores presented them in the early harvests this season, and that they have, in truth, been only partially injured by the present drouth.

From the New England Farmer.

Destruction of the Curculio.

MESSRS. EDITORS—For the following successful mode of destroying the Curculio, I am indebted to my respected friend Dr. Joel Burnett, of Southboro', a gentleman eminently distinguished for science and practical observation. I hope others may be induced to try the experiment and with the like successful results.

In insulated situations, as in cities and in places surrounded by salt marshes, the plum and other smooth skinned fruits usually bear large and very abundant crops.—But it is not thus in the open country, where it is well known, that a great proportion of the fruits of the plum, and the nectarine and the Apricot are extremely liable to be destroyed by the attacks of the Curculio, and from this cause prematurely fall to the ground.

The curculio is extremely partial to the smooth skinned fruits. The cherry, though equally obnoxious to the attacks of this insect, usually in a great measure escapes, owing to no other cause than the incredible number of its fruits.

It is well known that the egg which the curculio deposits in the fruit becomes in process of time a worm, which causes a great part of the fruits to fall. Soon after its fall, the worm quits the fruit, descending into the earth. Early in spring, and about the time the fruit is forming, the curculio arises from its early bed, a winged insect. Yet though having wings, it has been observed that they rarely use them. After entering their new element and remaining on the surface of the earth for a time, they ascend the tree, and in a few days they puncture and deposite an egg, in many cases, in every fruit.

The motions of the curculio are very quick; to observe them requires very narrow and close inspection, as they avoid the face of man, suddenly dodging to the opposite side of the leaf or limb.

Dr. Burnett informed me a few days since, that he had a fine tree of the Prince's Imperial Gage Plum. This variety, although naturally one of the most valuable and productive of all Plums, yet never would produce a crop of fruit on his grounds, on account of the abundance of the curculios, but by adopting the following expedient, a most bountiful crop was produced during the last season.

Early in the spring, or as soon as the tree was in bloom, a hencoop containing a hen and an early brood of chickens, was placed beneath the tree. After the curculios had arisen from the earth, and before they were prepared to ascend the tree, every one of them, as it appears, were devoured by the brood; and owing to this circumstance and to no other cause, the tree ripened and matured a most extraordinary crop of fruit. WILLIAM KENRICK.

Nonanton Hill, Newton, April 10, 1838.

From the Farmer and Gardener.

Hussey's Horse Power Reaping Machine.

We have been furnished with the following notice and description of the operations and construction of the above machine, and give it a place for the benefit of our readers, under the belief that as harvest labor is becoming both scarce and dear, it will ere long be found both useful and economical.

"Since the first invention in 1833, this reaping Machine has been gradually advancing in credit with farmers. It, like all other improvements, required time and experience to bring it to a state of perfection. No objection has ever been made to the quality or speed of its work; in these respects it has always given entire satisfaction; some parts have occasionally broken, and those parts have from time to time been made stronger as experience has pointed out the necessity. Some objection has been made as to the inconvenience of its general construction, which was in some degree, the cause of the accidents which occurred, but last year an entire change has been made in the general structure, although the grand principle of cutting remains the same; this change appears to have obviated every difficulty before complained of. The first machine, on a new arrangement, was used by Mr. Stonebraker of Hagerstown, Md., who used it through his whole harvest without the least accident.

Col. Tilghman, of the same vicinity, used one of the same kind with the same success in cutting clover seed, of which, twelve acres were cut in one day.

Machines of the same construction have been used the present year, with the same success. Of the number made for the last harvest, one was reserved by the patentee for exhibition; he commenced in Cambridge, Dorchester county, Md., where he cut about 38 acres of heavy wheat; he next cut 70 acres in Easton, Talbot county; the next was on the farm of Wm. De Coursey, Esq. where he cut 45 acres of very heavy wheat, not only to the entire satisfaction, but to the admiration of all. In cutting all this, the cutters were not sharpened, nor did the speed or the quality of the work show the least symptom of a need of sharpening. It is the opinion of those best acquainted with the machine, that it would cut not only a whole harvest, but for seven years without being sharpened at all, after being once well made, and rendered sharp; yet for the ease of the horses it would be well to grind them once a year. After cutting at Mr. DeCoursey's, the machine was carried to Philadelphia, near which it was tried in presence of a committee of the Agricultural society, whose report will soon be published; an exhibition in Lancaster co., Penn., ended its operation this year.

The following is a description of the machine as lately improved by Mr. Hussey. A frame is constructed about 5½ feet long, 3½ feet wide, and 2 feet high, resting on a pair of wheels 3 feet 3 inches diameter. A pair of shafts extend forward from the frame; the main axle is fixed to the middle parts of the frame, a plank is then placed across the frame before, and another behind the wheels and near the ground, one end of each plank is fixed to the frame on one side with hinges, the other end extends across the frame and reaches 5 feet beyond the wheel on the other side; across these extended ends, planks are fixed crosswise, forming a platform on which the grain falls when cut; on the front edge of this platform, is fixed the cutting apparatus, which is formed in the following manner: a row of iron spikes are rivetted to the platform, pointing forward, and about 6 inches long, and three inches apart; these spikes are formed of an upper and a lower piece, leaving a slit or mortice in each spike; all of which correspond in a straight horizontal line. The cutters are formed of blades shaped like lancet points, sharp on both edges, 3 or 4 inches long; these are rivetted side by side in a rod of iron, the whole having the appearance of a saw with long teeth. This saw is pushed endwise through the mortices in the spikes, until each blade comes to its own corresponding spikes, against which it cuts;—it is then fastened to a rod, which connects with a crank inside of the frame; this crank in its revolutions gives a vibratory motion to the cutter causing each blade to move in the exact distance between two spikes; the crank receives its motions from a cog wheel on the main axle;—this axle being fast in the hubs of the wheels, and rolling in boxes attached to the posts of the frame, gives motion to the crank as the machine advances ahead. The horses and wheels with the frame travel on the stubble and close to the standing grain, while the platform extends into the grain. As the machine progresses, the grain is brought between the spikes, and is cut as it comes in by the vibrating blades or cutters; the straw is held both above and below the edge of the blades, by the two parts of the spike, while the blade passes through the spike; this makes the cutting sure. While being cut the butts receive an impulse forward, while the heads are inclined backwards; this causes the grain to fall backwards in a very regular manner on the platform; it is then pushed off with a rake behind, in very neat order for binding by a man who rides on the frame, between the wheels, and uses the rake in a manner almost precisely similar to padling a boat. In heavy wheat, eight binders are generally required, arranged round the lot at equal distances from each other, each binding the space allotted to him; one horse is placed in the shafts and one or two ahead, as circumstances may require, with a boy on the shaft horse to drive."

The price of this Machine is $150, the same as asked by Mr. Hussey before he made his improvements upon it, many of which are attended with considerable cost, and we understand that although the present price leaves him but a very trifling profit, it is not his purpose to raise it unless circumstances should occur, such as the increase in value of materials and labor, to render in necessary.

As we have been often asked by letter where Mr Hussey can be found, we would seize this occasion to say that he is now located in *Baltimore*.

CATALOGUE.

Of the Blooded Stock sold at the sale of Major Samuel Smith, dec'd., Fayette county, Ky., September 11, 1838.

1.	Nancy Dawson, Spencer Cooper and Gratz,	$405
2.	Cleopatra, C. C. Morgan,	1230
3.	Ellen, R. T. Dillard and C. R. Ferguson,	1235
4.	Letitia, Benjamin Scott,	510
5.	Overton, W. D. Young,	610
6.	Oliver Keen, 5 months old, W. S. Hume,	1000
7.	Young Comet, 2 months old, W. M. Rose,	265
8.	Crittenden, 12 months old, G. W. Clark,	625
9.	Scioto, R. T. Dillard and C. R. Ferguson,	500
10.	Daisy, (barren,) J. Matson and J. Sphears,	210
11.	Gaudy, Thomas Hughs,	305
12.	Creeping Cate, C. C. Morgan,	250
13.	Miss Matchless, 2d, W. M. Ross,	310
14.	Young George, John Overton,	150
15.	Adelaide, R. T. Dillard & C. R. Ferguson,	1375
16.	Beauty of Wharfdale, F. S. Read,	755
17.	Adeline, J. Kennard and Thos. Wallis,	1030
18.	Young Adelaide, R. P. Kenny,	440
19.	Mary Ann and Calf, 10 days old, R. G. Jackson and Benjamin P. Gray,	2100
20.	Prudence, E. S. Washington,	755
21.	Jewess, (barren,) J, Matson and J. Sphears,	276
22.	Flower, ¾ cow, Joseph Hern,	89
23.	Derry, ½ cow, S. Collins,	50
24.	Olive, ½ cow, John Brennan,	192
25.	Mary Brand and calf, C. R. Ferguson,	150
26.	Lady Jackson, ¾ C. C. Morgan,	65
27.	Lucinda, ¾, C. R. Ferguson,	80
28.	Matilda, 15-16, (supposed barren,) R. Lighter	48
29.	Miss. Susan, ½, N. Dudley,	50
30.	Mary Jane, ½, Isaac Morton,	135
31.	Margaret 15-16, yearling, W. Warner,	315
32.	Lucy Ann, 15-16, yearling, R. Lighter,	250
33.	Mary Eliza. ¾, yearling, A. Warner,	42
34.	Emperor, 15-16, bull-calf, 5 months old, Mr. Bennet,	200
35.	Howard, ½, 5 months old, W. Warner,	165
36.	Miss Fry, ½, heifer, W. Lighter,	155
37.	Laura, ½, heifer, G. W. Clark,	50
38.	Zarilda, ½, do. Isaac Morton,	80
39.	Maria, ½, do. do. do.	130

W. T. CALMES,
Acting Executor of S. Smith, dec'd.

Painting Buildings.

It is thought by some persons that all the expense laid out in painting buildings is thrown away, or what amounts to about the same thing,—that buildings are painted merely for show and to gratify the vanity of the owner. This however, in most cases is very far from being the fact; although in some instances it may be true to some extent,—for we have sometimes noticed buildings with the front and ends, which are most exposed to view, painted, while all other parts of it are left to rot down in their natural state. The object for which paint should be put on, is to protect the building from the weather, and preserve it from decay; and that kind of paint which will most effectually do this, is the best. A building kept well painted with white lead, will last two or three times as long as one will without painting. Therefore money laid out in painting buildings is as usefully and as profitably expended as it can be in almost any other way we can use it.

There are some who think that a coat of paint will be more durable if it strikes into the wood; and to effect this they will let work stand for a few weeks or months after it is put up, in order to let the grains of wood open to receive the paint. This is a very great error, and one which ought to be corrected. The very object of painting, which we have before stated to be to form a permanent coat or crust on the outside of the building, and protect it from the weather, is, in such case, partially defeated, besides it takes nearly double to paint, which occasions a great waste. In order to derive the greatest benefit at the least expense, the paint should be applied as soon as possible after the work is put up.

It has been found by various experiments that the months of September and October are the best time in the whole year for painting the outside of buildings. If paint be applied in the very hottest weather in summer, the oil is evaporated so rapidly that enough of it is not left to combine with and retain the whole of the lead and form a durable coat. This is the reason why the paint on many buildings will rub off; and it washes off by heavy rains, for which reason buildings painted in June, July and August, need painting much sooner than those painted when the weather is cooler. But if the paint be applied in September or October, when the rays of the sun are less powerful, the oil evaporates more slowly, and enough of it remains to combine with the lead and form a more permanent covering for the wood. It also has the whole of the autumn, winter and spring months, to harden in, and the rays of the sun, however powerful the next season, cannot effect it. April and May are favorable times for painting when the weather is good, and in fact any time in the whole year, is better than midsummer.

A great variety of articles have been subtituted for lead in forming the basis of paints; and doubtless many of them answer a tolerable purpose for a year or two,—that is, they look very well, and are much cheaper, which induces many to use them; but we question whether any one has been found that will form so permanent and durable a coat, and so completely protect the building from the weather, as lead mixed with linseed oil. Besides, a white cottage in the country contrasts so beautifully with the green foliage around it, that we can but admire it.

Among the many substitutes for lead, we think the following as durable and cheap as any in use, and it is said to render wood fire proof.

Make a pickle by boiling three quarts of good rock salt in three gallons of water, and skim it clean. Pour it off, in order to free it from the impurity that will settle to the bottom. Add to it one pound of alum, and one half a pound of copperas powdered fine. Slack a quantity of fresh lime sufficient to make one and a half gallons of white wash, as thick as good molasses in cold weather and add to the pickle, and stir it well. Pound three quarters of a pound of first quality potash fine, and mix it with four quarts of fine sand, and stir it in gradually—and add coloring matter to make it any shade you desire. Clean hard wood ashes may be used instead of sand, if more convenient. It should be kept moderately hot while it is being put on.—*Maine Farmer.*

Docility and Intelligence of the Ox.

The common charge of stupidity urged against the patient and much enduring ox, is wholly unfounded, or, if true, is only so of those breeds or individuals with which no pains have been taken to cultivate and improve their natural instincts. Scarcely can the horse itself boast a higher degree of tractibility or intelligence than this animal, when its powers are excited and educated. In proof of this, we need only refer to the faithful Backley of the Caffre tribes, whose services in the field or in war, as the keeper of his master's herds, his protector from robbers, or the fighter of his battles, render him an invaluable possession to those semi-barbarous hordes. We need not however, go so far from home for proofs of intelligence; the Devonshire oxen, which are almost exclusively employed in the labors of husbandry, exhibit a high degree of docility, and other mental qualities, which admirably fit them for the performances of such services. There are many amusing anecdotes recorded of this animal, to which I beg to add the following, which was witnessed by a lady, a near relation of mine:—A cow, which was feeding tranquilly in a pasture, the gate of which was open to the road, was much annoyed by a mischievous boy, who amused himself by throwing stones at the peaceful animal: who, after bearing with his impertinence for some time, at length went up to him, hooked the end of her horn into his clothes, and lifting him from the ground, carried him out of the field, and laid him down in the road; she then calmly returned to her pasture, leaving him quit for a severe fright and a torn garment.—*Bell's British Quadrupeds.*

Potato Tops for Fodder.

We have been informed by Mr. S. Manter, of Wayne, in this county, that potato tops when dried and housed, make excellent fodder for horses, and that they will eat them as readily as they will clover hay. He collects them together and dries them in the same manner that he would coarse clover, and then packs them away in his barn.—An acre of potatoes will yield a large crop of tops—especially the variety known by the name of the Long Red, or River La Plata potatoes. This certainly is worth knowing, and the plan worth following. It is an additional profit from the valuable crop, and every thing that can be saved to the farmer, should be saved. It is true that in this state fodder is at present very plenty; but it is not yet 365 days since it was very scarce. He who saves in times of plenty, will have a good habit fixed by the time that scarcity comes round, and knowing how to practice it will suffer much less than he who has been habitually improvident and wasteful.—*Maine Farmer.*

Rats in Grain.

How to prevent the ravages of rats in grain after it is housed, has been an enquiry of long standing. We can never exterminate them to such a degree as not to apprehend their incursions, for a horde of these troublesome visiters will often make their appearance when we least expect them. Instinct points the way where that provision best suited to their nature is found most plentiful. We have often found when we went to thrash, our oats cut and cleaned by them, and the straw rendered unfit for any purpose whatever, event the subservient one of litter.

But every evil has a cure: and I have found "common elder" to be a common preventive, and have tested its properties as an anti-rat application. When the grain is to be packed away, I scatter a few of the young branches over every layer of bundles, being mindful to have them in greatest abundance on the edges of the pile. The drying of the twigs will give the grain an odor not relished by the vermin—which scent in no wise detracts from the quality of the straw for horses, as it makes no sort of difference with them. I have tried it successfully, a number of years, in wheat, oats and corn.—*Huntington Gaz.*

Pig Trough.—A writer in the Genesee Farmer, a few years ago, described a method of making this article, which we copied into the Maine Farmer, and which we have also practised, and find to be a great improvement.

It is simply this. Take two pieces of board or plank of the length that you wish your trough; put two of their edges together at right angles, thus V, and nail them strong. Then take two pieces something longer than the trough is wide and nail upon the ends. Then take some clay mortar and fill up the chinks to prevent its leaking, and it is done. The food settles down in the angle at the bottom of the trough, and the pig will *fay* his sharp under jaw into it completely, while the long ends prevent its being upset so easily as the old kind. Any body who can saw a board off, and drive a nail, can make one. If you have no trough for your pig, just try your hand at making one on this plan.—*Maine Farmer.*

Berkshire Pigs for Sale.

THE subscriber has several pair of the above breed of pigs unengaged, that were dropped the present week and will be ready for delivery the last of October.

Buffalo, Sept. 22, 1838.–w3tm1t A. B. ALLEN.

SOUTH DOWN SHEEP.

THOSE who are interested in the breeds of sheep are respectfully invited to call and see the breed of South Downs, imported by James Parsons of Riga, Monroe Co. Those sheep are the pride of the English farmer, and are well known to be that kind of sheep which alone are superior to any other now raised in England. The make and form of the South Down sheep render them the objects of admiration by all who have seen them.

It is now five years since I have had them in this country, and such is the favor by which they have been received by those who have experimented in the cross of the South Down buck with the Saxony and Merino ewe that any further praise in their favor is needless.

Those who delight to improve their own stock of sheep and are anxious to do so, may apply to the following persons for information respecting the cross of the South Down with the sheep of this country, all of whom have experimented in the cross.

Monroe County.

Isaac Lacey Esq.,	Chili.	Mr. Vangeeson,	Clarkson.
Elisha Sheldon,	do.	Guy Chappell,	Sweden.
E. Blackmore,	Wheatland.	James Lush,	Ogden.
Calvin Armstrong,	do.	Willian Church,	Riga.
William Legget,	Henrietta.	William Brodie,	do.
Stephen Legget,	do.	James Loder,	do.
Mr. Schank,	Brighton.	Henry Davis,	do.
John Moxon,	Greece.	Samuel C. Baldwin,	do.
John Pringle,	do.	Mr. Vangeeson,	do.
John G. Crandell,	Clarkson.	Thomas Adams,	do.
Jeptha Wilber,	Avon,	Livingston	Co.
Josiah Smith,	Genoa,	Cayuga	do.
Worthington Smith,	do.	do.	do.
Silas Tucker,	Seneca,	Ontario	do.
George G. Holdridge,	Ossian	Allegany	do.
Ralph Fitch,	do.	do.	do.
S. Strong Esq.,	Owego,	Tioga	do.
John P. Wilson,	do.	do.	do.
William Kingham,	Springfield,	Clark Co.	Ohio.
Remus Payne,	Locust Grove,		Kentucky.

Should I not dispose of that portion of my bucks which I hold for sale by private sale, it is my intention to sell the remainder at auction in the city of Rochester, of which sale notice will be given at a future period, but those wishing to purchase cannot do better than to call at the residence of the subscriber in Riga, Monroe Co. and see the whole Flock of bucks and ewes and lambs; they can then take their choice of those for sale. I shall continue to have for sale yearly some of the above blooded sheep, which for pureness cannot be excelled by any in the country from whence they came. A certificate will be given with the pedigree for each sheep sold. JAMES PARSONS

September 29, 1838.–w3tm1t

A Farm for Sale.

THE subscriber, offers for sale a farm, containing one hundred and sixty-six acres of choice land. One hundred and twenty-five under improvement, and the most of it first rate grain land, situated at Hanover centre, in the county of Chautauque, two miles from Silver Creek Harbor, three from La Grange, four from Irving Harbor, and four from Farrestville.

There are upon the premises, two dwelling houses, one of them a large two story building, with commodious out buildings, orcharding, &c.

This farm is pleasantly situated, the soil of a superior quality, and is considered by competent judges, one of the most desirable farms in the county.

For terms, apply to David Seymour, on the premises, or to the subscriber at Lodi, Erie county.

JOSEPH PLUMB.

September 15th, 1838.–w8m2

Sale of Impoved New Leicester Sheep.

40 EWES and RAMS of this celebrated breed will be *Sold by Auction* at the old Norton Farm, East Bloomfield, 5 miles west of Canandaigua, Ontario Co. N. Y., on Wednesday, the 17th of October next; some of which are of those imported in 1834, and the remainder from the said stock breed upon the farm of their present owner: by whom the former were selected from the flocks of the most ancient breeders in England. They will be sold without reserve, either singly or in such lots as purchasers may wish. Liberal credit will be given on approved notes or good security.

September 1, 1838. THOMAS WEDDLE.

SAXONY SHEEP FOR SALE.

40 RAMS & 60 Ewes of the pure Electoral Saxon Race. The subscriber imported 100 yearling Ewes and a number of Rams in 1827 which were selected by himself from the purest race in Saxony, and with which he commenced his flock, and not only mantained them in all their purity of blood, but improved them in size, symmetry of form, and quantity and quality of wool. The above number of Ewes will either be sold or let for a term of years, and can be increased to 75 or 80 if desired.

H. D. GROVE,

Buskirks Bridge Post Office, Washington Co. N.Y.

August 25, 1838–3m*

MULBERRY TREES.

200,000 GENUINE Mulberry Trees, and as many more as may be wanted, of the most approved kinds—consisting of the best selected varieties now in use for cultivation, feeding worms, and making silk; being acclimated to this country, and adapted to either warm or cold climates, affording a rare opportunity for Companies or individuals to be supplied, from the most extensive collection of Mulberry trees ever seen in any village within the United States.

Autumn is decidedly the best time for removal, and orders left with

Messrs. I. B. Colt, Sec'y of the Connecticut Silk Manufacturing Company, Hartford; Alonzo Wakeman, at the office of the American Institute, No. 187 Broadway, N. Y.; Thomas Lloyd, Jr. No. 236 Filbert street, Philadelphia, Pa.; Luther I. Cox, Baltimore, Md.; B. Snider & Co. Savannah, Ga; Bliss, Jenkins & Co. Mobile, Al.; James Lyman, St. Louis, Mo.; Case & Judd, Columbus. O.; G. Harwood, Rochester, N. Y.; and the publishers of this advertisement, or with the subscriber, in Northamp, ton, Mass.

Orders left with the above gentlemen will be promptly attended to, and each will be furnished with samples of the foliage.

Several valuable farms may be had with or without Mulberry Plantations. Apply at the office of

D. STEBBINS.

Notrhampton, Sept. 1, 1838.–10t*

Silk Business.

PERSONS who intend doing an extensive business next year with the Mulberries, can be supplied with the *true genuine Morus multicaulis* trees and cuttings, by sending in their orders early. Companies that wish to contract for large quantities, can be supplied on reasonable terms. The trees are to be well packed, so as to be sent to any part of the United States, and delivered this fall. The subscriber has been extensively engaged in the culture of silk for some years, particularly to the production of the Morus multicaulis; and will be hapyy to give any information respecting the tree or feeding the worm that may be required—silk, worm eggs, &c.

All letters will meet with immediate attention if assingned to EDWARD H. ARNOLD.

Burlington, New Jersey.

N. B. As orders are coming in now, it would be well for those in want to apply early. Aug. 1838.–3m*

Silk Worms Eggs.

WE can furnish any quantity of Silk Worms Eggs, of the white or two crop variety.

Rochester, July 28. REYNOLDS & BATEHAM.

Stones Wanted.

A Liberal price will be paid for Peach and Plum stones delivered soon at the Rochester Seed Store.

sep15 REYNOLDS & BATEHAM.

New Arrival of Turnep Seeds.

WE have just received from England a large additional supply of Turnep Seeds, among which are the following kinds:

Ruta Baga, or Yellow Sweedish,
Dale's Yellow Hybrid,
Yellow Bullock, Yellow Scotch,
Yellow Aberdeen, Red Round,
White Globe or Flat,
White Norfolk, Long Tankard,
Early White Flat Dutch,
White Stone, Yellow Stone,
Yellow Malta, Yellow Dutch.

☞ See descriptive list on page 198, current vol. Genesee Farmer. REYNOLDS & BATEHAM.

Rochester Seed Store, June 23, 1838.

Farmers' Books.

NOTICES on the Sugar Beet, containing a description of the culture and preservation of the plant; also explanations of the process of extracting its Sugar. Price 25 cts.

A Manual of the art of making and refining sugar from Beets. Price 75 cents.

Cobb's Manual on the Culture of Silk.
Chaptal's Agricultural Chemistry.
The Complete Farmer, by Fessenden.
Fessenden's American Gardener.
A Guide to Orchardists.
Smith's Treatise on the Honey Bee.
A Treatise on Cattle.
Mason's Farriery.
Barnum's American Farriery.
Vols. 1st and 4th, Genesee Farmer, bound.

For sale by D. HOYT,

Rochester, May 26. 1838. Bookseller, 6 State st.

Fruit Trees for Sale.

THE subscriber respectfully informs his friends and the public, that he has for sale at his Nursery in Rochester, Monroe county, state of New-York, a large quantity of Fruit Trees, grafted and inoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL MOULSON.

April 15, 1838.

N. B. Cash will be paid for a few thousand two years old Apple Trees.

Monroe Horticultural Garden & Nur-

SERIES, GREECE, MONROE COUNTY, N. Y.

THIS establishment now comprises over 20 acres, covered compactly with Trees and Plants in the different stages of their growth.

The subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Grape Vines, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, Splendid Pæonies, Double Dahlias, &c. &c.

Also, a large collection of Green-House Plants, of choice and select varieties, in good condition.

Orders respectfully solicited. Trees and Plants, when ordered, are carefully selected and faithfully packed, and if desired, delivered on the Canal, one mile from the Nursery, or at Rochester.

Orders for Mr. Rowe's Nursery received by the publisher of this paper.

Catalogues will be sent to every applicant, gratis, or may be had by calling at the office of the Genesee Farmer.

April 1, 1838. ASA ROWE.

Seed Buckwheat,

A GOOD clean article for sale low by

June 23. REYNOLDS & BATEHAM.

ELECTION NOTICE.—*Sheriff's Office, Monroe County, Rochester, July* 19*th*, 1838.—A general election is to be held in the county of Monroe, on the 5th, 6th and 7th days of November next, at which will be chosen the officers mentioned in the notice from the Secretary of State, of which a copy is annexed.

DARIUS PERRIN, *Sheriff.*

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State of New-York, Secretary's Office, Albany, July 16*th*, 1838.—Sir: I hereby give you notice, that at the next General Election in this State, to be held on the 5th, 6th and 7th days of November next, a Governor and Lieutenant Governor are to be elected.

I also give you notice, that a Senator is to be chosen in the Eighth Senate District, in the place of Isaac Lacy, whose term of office will expire on the last day of December. JOHN A DIX, *Secretary of State.*

To the Sheriff of Monroe county.

N. B. The Inspectors of Election in the several towns in your county, will give notice of the Election of a Representative to Congress from the 28th Congressional District. They will also give notice of the Election of Members of Assembly, and for filling any vacancies in count. officers which may exist. July 28, 1838